REMARKS

Applicant respectfully requests re-consideration of the application as amended.

Summary of Office Action

Claims 1-3, 5 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,226,331 of Gambuzza ("Gambuzza").

Claims 6, 10 were rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 6,295,343 of Hjartarson ("Hjartarson").

Claim 4 was rejected as being unpatentable under 35 U.S.C. § 103 in view of Gambuzza.

Claims 11-13 were rejected as being unpatentable under 35 U.S.C. § 103 in view of Gambuzza and Hjartarson.

Claims 7-9 were indicated as being allowable if re-written.

Summary of Amendments

Claim 6-9 were amended. Applicant respectfully submits the amendments to the claims do not add new matter.

Response to rejection under 35 U.S.C. § 102

Claims 1-3, 5 were rejected as being anticipated by Gambuzza. The Examiner stated in part:

> Gambuzza teaches the claimed subject matter as followed [sic]. "a hybrid network having a hybrid input, a receive input, and a hybrid output, wherein the receive input is capacitively coupled to a subscriber line carrying upstream and downstream data signal" (Figure 4, elements 440A and 440B), wherein the paths through R7 and R8 teach "a hybrid input"; the paths through R5 and R6 teach "receive input"; and outputs from 440A and 440B teach "a hybrid output";
> "a driver providing the upstream data signal to the subscriber line and the hybrid input, wherein the driver is capacitively coupled to the

hybrid input, wherein the hybrid output provides the extracted downstream data signal from the subscriber line" (Figure 4, elements 430B, 430C).

(11/05/2003 Office Action, p. 2)(*emphasis added*)

Applicant traverses the Examiners characterization of <u>Gambuzza</u>. Although applicant agrees that <u>Gambuzza</u> discloses a hybrid having a hybrid input, a receive input, and a hybrid output, applicant respectfully submits that *<u>Gambuzza's</u> hybrid input is not capacitively coupled to the driver.*

Applicant notes that the receive input includes both the signal transmitted by the driver and the signal received from the subscriber line. The purpose of a hybrid is to extract the received signal from the subscriber line in the presence of the transmitted signal by canceling the transmitted signal from the signal appearing on the subscriber line. The hybrid input is associated with the transmitted signal and the receive input is associated with the signal appearing on the subscriber line. Applicant notes that the path through R5 and R6 *represents the hybrid input* (not the receive path); *the path through R7 and R8 represents the receive path* (not the hybrid input). The receive path through R7 and R8 is capacitively coupled (through capacitors C8 and C7, respectively) to the subscriber line 412. *The hybrid input path through R5 and R6, however, is not capacitively coupled to driver* 430B or 430C.

In contrast, claim 1 includes the language:

1. An apparatus comprising:
   a hybrid network having a hybrid input, a receive input, and a hybrid output, wherein the receive input is capacitively coupled to a subscriber line carrying an upstream data signal and a downstream data signal;
   a driver providing the upstream data signal to the subscriber line and the hybrid input, *wherein the driver is capacitively coupled to the hybrid input*, wherein the hybrid output provides the extracted downstream data signal from the subscriber line.

(Claim 1)(*emphasis added*)

Thus applicant respectfully submits claim 1 is not anticipated by Gambuzza.

With respect to the rejection of claims 6 and 10 as being anticipated by Hjartarson, the Examiner has indicated that Figures 6-7 (all elements except element 407) illustrate a hybrid network of order less than or equal to 2. The Examiner has also cited col. 7, lines 25-28 in support of his argument. (11/13/03 Office Action, p. 3).

Applicant respectfully traverses the Examiner's characterization of Hjartarson. The network identified by the Examiner is *not* a hybrid network. Hjartarson is drawn to methods of combining DSL and POTS (voice) signals on the same line card without the use of a splitter (see, e.g., col. 4, lines 1-10). The DSL and POTS circuits share a common driver for driving signals onto the loop. A receiver section includes a buffer amplifier 407 for splitting the received signals and forwarding them on to their respective receiver circuits. The network also includes an impedance synthesis portion to provide a complex impedance at low frequencies (i.e., for POTS) and a simple resistor as the termination impedance at high frequencies (i.e., for DSL). (Hjartarson, col. 4, lines 1-37). There is no teaching or suggestion of a hybrid or performing the function of a hybrid.

The language cited by the Examiner states:

> Since both the POTS linecard 406 and the xDSL modem 408 circuits have high-order filters as part of their input circuits, the anti-aliasing filters can be simple first order filters.

(Hjartarson, col. 7, lines 25-28)

Applicant respectfully notes that the anti-aliasing filter 514 is present in Figure 7, not Figure 6. The Examiner is apparently analogizing the anti-aliasing filters to applicant's hybrid. The anti-aliasing filter does not provide a hybrid function. Buffers 407 clearly provide the same receive signal to each of POTS 406 and DSL 408. The anti-aliasing filter is used in the embodiment that illustrates

generation of a frequency dependent impedance using digital means (Figure 7) as contrasted to analog means (Figure 6) (see, e.g., col. 6, lines 33-59). No extraction or separation of upstream and downstream signals has been performed by the anti-aliasing filter or the remainder of the circuitry illustrated in Figures 6-7. At best separate paths are provided for the DSL receive circuitry and the POTS receive circuitry. Each of POTS 406 and DSL 408, however, *still must perform the hybrid function.*

The DSL modem 408, for example, must extract the downstream DSL signal from the signal provided by buffer 407 that includes both the transmitted (i.e., upstream) and received (downstream) DSL signal from loop 404. Similarly, POTS codec 406 must extract the downstream POTS signal from the signal provided by buffer 407 that includes both the upstream and downstream POTS signal. The hybrid portions of the DSL 408 and POTS 406 circuits are not illustrated. As indicated by the language cited by the Examiner, however, these circuits (406, 408) have "high order" filters as part of their input circuits.

Applicant respectfully submits that *Hjartarson does not teach or suggest a hybrid network having order less than or equal to 2. Applicant further respectfully submits that Hjartarson does not teach or suggest capacitive coupling of the hybrid to a subscriber line to receive the composite signal including the upstream and downstream date signals, nor capacitive coupling of the hybrid to a driver for receiving the upstream data signal.*

In contrast, amended claim 6 includes the language:

6. An apparatus, comprising:
    a hybrid network having a receive port capacitively coupled to receive a composite signal including an upstream data signal and a downstream data signal communicated on a subscriber line, the hybrid network having a hybrid input port capacitively coupled to receive the upstream data signal from a driver, the hybrid network providing the downstream data signal at an output port, wherein the hybrid network order is less than or equal to 2.

(Claim 6, as amended)(*emphasis added*)

Thus applicant respectfully submits claim 6 is not anticipated by Hjartarson.

Given that claims 2-5 depend from claim 1 and claims 7-13 depend from claim 6, applicant respectfully submits claims 2-5 and 7-13 are likewise not anticipated by the cited references.

Applicant respectfully submits the rejections under 35 U.S.C. § 102 have been overcome.

Response to rejection under 35 U.S.C. § 103

Claim 4 was rejected as being unpatentable over Gambuzza. Claims 11-13 were rejected as being unpatentable over Gambuzza and Hjartarson. Applicant respectfully submits that claims 1-13 are patentable over the cited references. Applicant notes that none of the obviousness rejections were directed toward independent claims.

Applicant has argued that claim 1 is patentable over Gambuzza as discussed above and claims 2-5 depend from claim 1. Applicant respectfully submits claims 2-5 (including claim 4) are likewise patentable over Gambuzza.

With respect to claims 11-13, applicant respectfully submits *none of Gambuzza or Hjartarson teaches or suggests capacitive coupling of the hybrid input port to a driver for receiving the upstream data signal.* In contrast, claim 6 as amended includes the language:

> 6. An apparatus, comprising:
> a hybrid network having a receive port capacitively coupled to receive a composite signal including an upstream data signal and a downstream data signal communicated on a subscriber line, *the hybrid network having a hybrid input port capacitively coupled to receive the upstream data signal from a driver,* the hybrid network providing the downstream data signal at an output port, wherein the hybrid network order is less than or equal to 2.

(Claim 6, as amended)(*emphasis added*)

Thus applicant respectfully submits claim 6 is patentable in view of the cited references. Given that claims 7-13 depend from claim 6, applicant respectfully submits claims 7-13 are likewise patentable over the cited references.

Applicant respectfully submits the rejections under 35 U.S.C. § 103 have been overcome.

Conclusion

In view of the amendments and arguments presented above, applicant respectfully submits the applicable rejections and objections have been overcome. Accordingly, claims 1-13 as amended should be found to be in condition for allowance.

If there are any issues that can be resolved by telephone conference, the Examiner is respectfully requested to contact the undersigned at **(512) 306-9470**.

Respectfully submitted,

DAVIS & ASSOCIATES

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